Sandia National Laboratories

LIVERMORE, CALIFORNIA

POSITION: Heat and Mass Transfer Research **JOB ID:** 63275

MANAGER: Chris Moen

Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. We are a world-class team of scientists, engineers, technologists, postdocs, and visiting researchers—all focused on cutting-edge technology, ranging from homeland defense, global security, biotechnology, and environmental preservation to energy and combustion research, computer security, and nuclear defense. To learn more, visit http://ca.sandia.gov/casite/.

DEPARTMENT DESCRIPTION

The Thermal/Fluid Science and Engineering Department is a multidisciplinary group of engineers and technologists who specialize in fluid mechanics and heat and mass transfer. The work mix spans theory and scientific computing to mechanical design and applied experimentation. Our group plays three primary roles in science-based engineering at Sandia: (1) developing new computational methods and tools to describe fluid mechanics and heat transfer; (2) performing computational analyses to predict the design performance of engineered systems; and (3) designing, building, and testing prototype systems. Recent activities within our group include hydrogen storage and safety technology, combustion and heat transfer modeling, and material process modeling. Our department is part of Sandia/California's Transportation Energy Center.

JOB DESCRIPTION

We seek an engineer who will carry out heat and mass transfer analyses and scientific computing research. The research component, which focuses on gaining an understanding of physical processes through theory and numerical experiments, will consist of developing numerical methods and computer codes for Sandia's world-class computing platforms. The analysis component has two parts: (1) evaluating and optimizing mechanical designs and prototype hardware and (2) understanding the interactions between components of complex systems. Our department works on a dynamic and ever-changing set of problems. The engineer may work on several different tasks concurrently and will be asked to apply research results to impact engineering development projects. Current projects in our department include safety and security systems within defense programs, alternative fuel infrastructures, and new developments in transportation energy.

QUALIFICATIONS

A PhD in mechanical, chemical, or aerospace engineering is required for this position. Additional required qualifications include (1) experience with computational fluid dynamics, ideally both compressible and incompressible flows, as well as methods development and high-performance computing; (2) core skills in all modes of heat transfer and chemical thermodynamics, with additional skills in the areas of chemically reacting flows and kinetics, multiphase flow systems, material and chemical processes, hydrogen technology, batteries, biofuels, and/or renewable energy systems; and (3) excellent communication and teamwork skills. Candidates must have a publication record that demonstrates their original contributions to the engineering science of heat and mass transfer. Candidates must also be able to synthesize information from physical and numerical experiments to solve engineering problems, employing an appropriate combination of analytical and computational techniques. Finally, candidates must be flexible and able to rapidly master new engineering science topics.

Candidate must be able to obtain a U.S. Department of Energy security clearance for this position. To obtain a security clearance, U.S. citizenship is required.

Apply at: http://ca.sandia.gov/casite/employment/. Click on Browse current job openings, and type the Job ID number **63275** into the Keywords box. Click on the Search button to access this job opening, and complete an online application.

ABOUT SANDIA

Sandia provides employees with a comprehensive benefits package that includes medical, dental, vision, and a 401(k) with company-match. Our culture values work-life balance; we offer programs such as flexible work schedules with alternate Fridays off, on-site fitness facilities, and three weeks of vacation. In addition, Sandia/California enjoys close proximity to San Francisco, the Silicon Valley, first-tier universities, and diverse cultural and year-round recreational opportunities.

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